Claims:

1. An apodized Bragg grating photoinduced into a photosensitive medium, said Bragg grating having a light reflection spectrum including a spectral region of interest, and comprising:

a refractive index profile defining grating fringes along said photosensitive medium, the refractive index profile having a periodic apodization phase component designed to apodize the grating fringes reflecting light within the spectral region of interest by generating spurious reflection features in said reflection spectrum outside of said spectral region of interest.

2. The Bragg grating according to claim 1, wherein the refractive index profile further comprises a chirp phase component.

3. The Bragg grating according to claim 1, wherein the refractive index profile further comprises a sampling phase component.

4. The Bragg grating according to claim 1, wherein said apodization phase component has a sinusoidal variation.

5. The Bragg grating according to claim 1, wherein the spectral region of interest is the telecommunication C-band.

6. The Bragg grating according to claim 5, wherein said period of the apodization phase component is of about 25 μm or less.

7. A phase mask for photoinducing a Bragg grating into a photosensitive medium, said Bragg grating having grating fringes defining a light reflection spectrum including a spectral region of interest, the phase mask comprising:

a plurality of grating corrugations positioned along said mask according to a periodic distribution, said periodic distribution having a periodic apodization phase

component designed to apodize the grating fringes of the Bragg grating reflecting light within the spectral region of interest by generating spurious reflection features in said reflection spectrum outside of said spectral region of interest.

8. The phase mask according to claim 7, wherein the grating corrugations are of uniform height.

9. The phase mask according to claim 7, wherein the periodic distribution further comprises a chirp phase component.

10. The phase mask according to claim 7, wherein the periodic distribution further comprises a sampling phase component.

11. The phase mask according to claim 7, wherein said apodization phase component has a sinusoidal variation.

12. The phase mask according to claim 7, wherein the periodic distribution is designed so that the spectral region of interest is the telecommunication C-band.

13. The phase mask according to claim 12, wherein said period of the apodization phase component is of about 25 μm or less.

14. A method for photoinducing a Bragg grating into a photosensitive medium, said Bragg grating having grating fringes defining a light reflection spectrum including a spectral region of interest, the method comprising steps of:

a) providing a phase mask having a plurality of grating corrugations positioned therealong according to a periodic distribution, said periodic distribution having a periodic apodization phase component designed to apodize the grating fringes of the Bragg grating reflecting light within the spectral region of interest by generating spurious reflection features in said reflection spectrum outside of said spectral region of interest;

b) disposing the photosensitive medium along the grating corrugations in close proximity to said phase mask; and

c) projecting actinic radiation through said phase mask, said actinic radiation being diffracted by the grating corrugations to generate the Bragg grating, said Bragg grating being photoinduced into the photosensitive medium.

15. A system for photoinducing a Bragg grating into a photosensitive medium, said Bragg grating having grating fringes defining a light reflection spectrum including a spectral region of interest, the system comprising:

- a phase mask having a plurality of grating corrugations positioned therealong according to a periodic distribution, said periodic distribution having a periodic apodization phase component designed to apodize the grating fringes of the Bragg grating reflecting light within the spectral region of interest by generating spurious reflection features in said reflection spectrum outside of said spectral region of interest, the photosensitive medium being disposed along the grating corrugations in close proximity to said phase mask; and
- light projection means for projecting actinic radiation through said phase mask, said actinic radiation being diffracted by the grating corrugations to generate the Bragg grating, said Bragg grating being photoinduced into the photosensitive medium.

16. The system according to claim 15, wherein the grating corrugations are of uniform height.

17. The system according to claim 15, wherein the periodic distribution further comprises a chirp phase component.

18. The system according to claim 15, wherein the periodic distribution further comprises a sampling phase component.

19. The system according to claim 15, wherein said apodization phase component has a sinusoidal variation.

20. The system according to claim 15, wherein the periodic distribution is designed so that the spectral region of interest is the telecommunication C-band.

21. The system according to claim 20, wherein said period of the apodization phase component is of about 25 μm or less.

22. The system according to claim 15, wherein the light projection means comprise a UV light source generating said acitinic radiation.

23. The system according to claim 22, wherein said light projection means further comprise a scanning assembly for scanning said actinic radiation along said phase mask.

24. The system according to claim 22, wherein the light projection means further comprises beam shaping means for shaping said actinic radiation into a beam large enough to write said Bragg grating in a single exposition.